REMARKS

Applicants respectfully request reconsideration of this application.

Office Action Rejections Summary

Claims 1-13 and 15-36 have been rejected under 35 U.S.C. §103(a) as being unpatentable over U.S. Patent No. 6,044,061 of Aybay et al. ("Aybay") in view of U.S. Patent No. 6,370,112 of Voelker ("Voelker").

Claims 15-23 have been allowed. Therefore, the following remarks are directed to the rejected claims.

Status of Claims

Claims 1-13 and 15-36 remain pending in the application. No claims have been amended. No claims have been added. No claims have been canceled.

Claim Rejections

Claims 1-4 have been rejected under 35 U.S.C. §103(a) as being unpatentable over Aybay in view of Voelker. Applicants submit that claim 1 is patentable over the cited references.

Claim 1 recites:

> A method for cell replication comprising:
>
> receiving a request for data transmission through a crossbar and a corresponding mapping information, the **mapping information received by the crossbar** and received from one of a plurality of software configurable registers, the **mapping information indicative of** a destination slot **and a backup destination slot** to which the data is to be transmitted; and
>
> replicating the data by transmitting the data to the destination slot and to the backup destination slot when the data arrives at an input slot of the crossbar

(emphasis added)

The Office Action states:

> With regard to claim 1, Aybay et al. discloses receiving a request for data transmission through a switch and a corresponding **mapping information (column 6, lines 33-37; column 6, lines 59-61)**. For proper operation every ATM switch includes mapping information indicative of a destination slot to which the data is to be transmitted. Aybay et al. teaches receiving a request for data transmission through a data path multiplexer, which can be a crossbar (column 6, lines 34-37; column 8, lines 12-19), and a corresponding mapping information, **the mapping information received by the crossbar and received from one of a plurality of software configurable registers (abstract; Fig. 5; the requests could, for example, be mapped to priority levels**; column 6, lines 47-63; because the method of mapping, e.g., FIFO, is programmable, the registers are inherently software programmable). In Aybay et al., the core switch (multiplexer) can be (column 8, lines 12-19) a crossbar, and memory is disclosed to be registers (column 6, lines 52-57). Aybay et al. fails to teach a method for cell replication (abstract). Voelker teaches replicating the data by transmitting the data to the destination slot and to the backup destination slot when the data arrives at an input slot (column 4, lines 7-10). **It would have been obvious to one of ordinary skill in the art to modify the invention of Aybay et al. so that it teaches replication of the data cells because such an arrangement would provide fault tolerance.**

(Office Action, 11/5/03, pages 2-3)(emphasis added).

Applicants respectfully disagree with the Office Action's characterizations. First, it is uncertain what the Office Action is purporting to be the "mapping information" of Aybay. The Office Action cites to column 6, lines 33-37 and column 6, lines 59-61 of Aybay for support of a disclosure of mapping information. Applicants submit that there appears to be no mapping information disclosed at such passages. The Office Action also asserts "[f]or proper operation every ATM switch includes mapping information indicative of a destination slot to which the data is to be transmitted." Applicants respectfully request the Examiner to provide a citation (column and line numbers) where such purported disclosure may be found. If the Examiner is relying on facts which are not of record as common knowledge to arrive at applicants' claim limitations, then the **Examiner is respectfully requested to provide evidentiary support of such**. The Examiner's attention is directed to MPEP 2144.03(C).

The Office Action further states that "the requests could, for example, be mapped to priority levels; column 6, lines 47-63 [of Aybay]." Again, there appears to be no

mapping of the requests. The cited to passages of Aybay disclose that the four request registers operate on a first-in-first-out basis where register LO (containing the oldest information) is designated the highest priority and register LM containing the newest request is designate the lowest priority. Contrary to what the Office Action appears to be asserting, an incoming request cannot be mapped to different priority registers. Rather, an incoming request is always received by the newest request register LM.

Moreover, even if such were to be characterized as mapping information, such is contained in the channel module (e.g., channel module 118) and is not received by data path multiplexer (e.g., crossbar) 130. Applicant respectfully submits that the Office Action has overlooked the claim 1 limitation that "the mapping information is received by the crossbar." Applicants also refute the Office Action's assertion that "because the method of mapping, e.g., FIFO, is programmable, the registers are **inherently** software programmable." (Office Action, page 2) It is submit that the registers of Aybay need not be software programmable but, rather, can and appear to be hardware programmed due to their fixed relationship (e.g., requests always go through the registers on a FIFO basis) and, therefore, are not "inherently" software programmable. The Examiner is respectfully reminded that the fact that a certain characteristic *may* be present in a reference is not sufficient to establish the inherency of such. Inherency may not be established by probabilities or possibilities. (See MPEP 2112).

Furthermore, applicants submit that it would be impermissible hindsight, based on applicants' own disclosure, to combine the cited references to arrive at applicants' claim. Moreover, one of skill in the art, facing the problems confronting the inventors of Aybay, would not be motivated to combine the teachings of Voelker with the Aybay because Aybay teaches away from the use of large and complex queue architectures (e.g., a fault tolerant architecture as purported by the Office Action) because such are costly and difficult to implement. In particular, Aybay teaches that a shortcoming of conventional queue architectures is the use of too many input queues to provide requests to schedulers. Aybay cites to a prior exemplary architecture that requires an NxN switch having N^2

distinct FIFO input queues. Aybay further states that "as the number of input and output channels increases, the complexity of providing N^2 input queues an sending N^2 requests to the schedule becomes costly and difficult to implement." (Aybay, col. 2, lines 36-48). Aybay teaches an architecture that limits both the number of queues and the complexity of sending requests. Therefore, one of skill in the art would not be motivated to look to the teachings of Voelker for the replication of data because such data replication would increase the size of the channel modules of Aybay and the complexity of the switch fabric 60 architecture to handle data replication, which is contrary to the teachings of Aybay as noted above.

Moreover, it is respectfully submit that the Office Action's suggested combination of the teachings of Voelker with the architecture of Aybay would require a substantial reconstruction and redesign of the architecture of Aybay and, therefore, the teachings of the references are not sufficient to render the claims prima facia obvious. See MPEP 2143.03. Therefore, applicants submit that claim 1 is patentable over the cited references.

Given that claims 2-4 depend from claim 1, applicants submit that claims 2-4 are also patentable over the cited references.

Claims 5-13 have been rejected under 35 U.S.C. §103(a) as being unpatentable over Aybay in view of Voelker. Applicants submit that claim 5 is patentable over the cited references. Applicants submit that it would be impermissible hindsight, based on applicants' own disclosure, to combine the cited references to arrive at applicants' claim. Moreover, one of skill in the art, facing the problems confronting the inventors of Aybay, would not be motivated to combine the teachings of Voelker with the Aybay because Aybay teaches away from the use of large and complex queue architectures (e.g., a fault tolerant architecture as purported by the Office Action) because such are costly and difficult to implement. In particular, Aybay teaches that a shortcoming of conventional queue architectures is the use of too many input queues to provide requests to schedulers. Aybay cites to a prior exemplary architecture that requires an NxN switch having N^2

distinct FIFO input queues. Aybay further states that "as the number of input and output channels increases, the complexity of providing N^2 input queues an sending N^2 requests to the schedule becomes costly and difficult to implement." (Aybay, col. 2, lines 36-48). Aybay teaches an architecture that limits both the number of queues and the complexity of sending requests. Therefore, one of skill in the art would not be motivated to look to the teachings of Voelker for the replication of data because such data replication would increase the size of the channel modules of Aybay and the complexity of the switch fabric 60 architecture to handle data replication, which is contrary to the teachings of Aybay as noted above. Moreover, it is respectfully submit that the Office Action's suggested combination of the teachings of Voelker with the architecture of Aybay would require a substantial reconstruction and redesign of the architecture of Aybay and, therefore, the teachings of the references are not sufficient to render the claims prima facia obvious. See MPEP 2143.03. Therefore, applicants submit that claim 5 is patentable over the cited references.

In addition, the purported combination of references lacks one or more limitations appearing in claim 5. In particular, nothing in Aybay either alone or in combination with Voelker teaches or suggests the use of "software configurable" mapping information, as recited in claim 5. Applicants respectfully refute the Office Action's assertion that the "because the method of mapping, e.g., FIFO, is programmable, the registers are **inherently** software programmable." (Office Action, page 2). It is submit that the registers of Aybay need not be software programmable but, rather, can and appear to be hardware programmed due to their fixed relationship and, therefore, are not "inherently" software programmable. The Examiner is respectfully reminded that the fact that a certain characteristic *may* be present in a reference is not sufficient to establish the inherency of such. Inherency may not be established by probabilities or possibilities. (See MPEP 2112).

Therefore, applicants submit that claim 5 is patentable over the cited references. Given that claims 6-13 depend from claim 5, applicants submit that claims 6-13 are also patentable over the cited references.

For reasons similar to those given above with respect to claim 5, applicants submit that claims 24-32 are also patentable over the cited references.

For reasons similar to those given above with respect to claim 1, applicants submit that claims 33-36 are also patentable over the cited references

In conclusion, applicants respectfully submit that in view of the arguments set forth herein, the applicable rejections have been overcome.

If the Examiner believes a telephone interview would expedite the prosecution of this application, the Examiner is invited to contact Daniel Ovanezian at (408) 720-8300.

If there are any additional charges, please charge our Deposit Account No. 02-2666.

Respectfully submitted,

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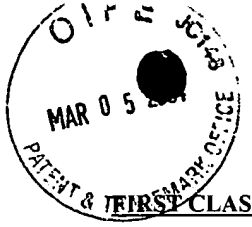

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